

## 32128a series sample program

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;ST7565V*1
CS1 EQU P1.0
RES EQU P1.1 ;RST=/RES
AO EQU P1.2 ;RS=A0
W_R EQU P1.3 ;W_R=/WR
R_D EQU P1.4 ;R_D=RD/E
ORG 0000H
JMP BEGIN
ORG 0003H
JMP INTOO
ORG 0013H
JMP INTII
BEGIN: CLR EA
      CLR RES ;RST
      NOP
      lcall delay
      lcall delay

      SETB RES
      NOP
      lcall delay
      ;MOV A,#0E2H ;SOFTWARE RST
      ;LCALL WCOM
      MOV A,#00101111B ;POWER SETTING(VF=ON,VR=ON,VC=ON)
      LCALL WCOM
      MOV A,#0A2H ;MOV A,#0A2H ;BIAS SELECT =1/6
      LCALL WCOM
      MOV A,#10100000B ;ADC SELECT: SEG0 TO SEG131
      LCALL WCOM
      MOV A,#11001000B ;SHL SELECT: COM63 TO COM0
      LCALL WCOM

      MOV A,#00100010B ;SET V5 VOLTAGE
      LCALL WCOM
      MOV A,#10000001B ;ELECTRONIC VOLUME MODE SET
      LCALL WCOM
      MOV A,#00100101B ;ELECTRONIC VOLUME REGISTER SET;
      MOV B,A
      LCALL WCOM
      ;MOV R3,090H ;WRITE 00H TO DISPLAY DATA RAM
      ;LCALL TEST
      ;MOV A,#10101100B ;STATIC INDICATOR OFF
      ;LCALL WCOM

;MOV A,#11111000B
;LCALL WCOM
;MOV A,#00000000B
;LCALL WCOM
;LCALL DELAY
MOV A,#040H ;INITIAL DISPLAY LINE
LCALL WCOM
MOV A,#0A6H ;NORMAL DISPLAY!!!!!!!!!!!!!!
LCALL WCOM
SETB EA
SETB IT0
SETB IT1
CLR EX0
CLR EX1
START: MOV A,#0AFH ;DISPLAY ON
      LCALL WCOM

      MOV A,#10100101B ;DISPLAY ALL POINTS ON(TEST1)
      LCALL WCOM
      LCALL DELAY2
      ;LCALL DELAY4
      WAIT: JMP WAIT
      MOV A,#10100100B ;return normal
      LCALL WCOM
      ;LCALL DELAY2

      ;MOV A,#040H ;INITIAL DISPLAY LINE
      ;LCALL WCOM
      LCALL TEST2 ;TEST2
      ;MOV A,#0AFH ;DISPLAY ON
      ;LCALL WCOM
      LCALL DELAY2

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## 32128a series sample program

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;LCALL DELAY4

;MOV  A,#040H ;INITIAL DISPLAY LINE
;LCALL WCOM
MOV  R3,#00H ;TSET3
LCALL TEST
;MOV  A,#0AFH ;DISPLAY ON
;LCALL WCOM
lcall delay2
;LCALL DELAY4

MOV  R3,#08H ;TEST4
LCALL TEST
;MOV  A,#0AFH ;DISPLAY ON
;LCALL WCOM
LCALL DELAY2
;LCALL DELAY4

MOV  R3,#090H
LCALL TEST
LCALL TEST6 ;TEST6
LCALL DELAY2
;LCALL DELAY2
;LCALL DELAY4

MOV  A,#10101110B ;DISPLAY OFF(TEST6)
LCALL WCOM
LCALL DELAY2
;LCALL DELAY4
;
; WAIT:JMP WAIT
; LJMP START
INTOO: PUSH ACC
MOV  A,B
CJNE A,#00000000B,GO_DEC
JMP  OUT_INTOO
GO_DEC:DEC  A
MOV  B,A
MOV  A,#10000001B
LCALL WCOM
MOV  A,B
LCALL WCOM
OUT_INTOO:POP ACC
RETI
INTII: PUSH ACC
MOV  A,B
CJNE A,#00111111B,GO_INC
JMP  OUT_INTII
GO_INC:INC  A
MOV  B,A
MOV  A,#10000001B
LCALL WCOM
MOV  A,B
LCALL WCOM
OUT_INTII:POP ACC
RETI

TEST:
DISP2: MOV  R2,#0B0H
MOV  A,R2 ;set page address
LCALL WCOM
MOV  A,#010H ;set column address MSB
LCALL WCOM
mov  a,#00h
;MOV  A,#00H ;set column address LSB
LCALL WCOM
DISP1: MOV  R1,#010H ;set (8*8)*16characters
MOV  DPTR,#CHAR

DISP0: MOV  R0,#08H
MOV  A,R3
MOVC A,@A+DPTR
LCALL WDATA
INC  DPTR
DJNZ R0,DISP0
DJNZ R1,DISP1
INC  R2

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                                R2,#0B4H,DISP2
                                CJNE
                                RET
TEST2:  MOV     A,#10110000B
                                LCALL  WCOM
                                MOV     A,#00010000B
                                LCALL  WCOM
                                MOV     A,#00000000B
                                LCALL  WCOM
                                MOV     A,#11111111B
                                LCALL  WDATA
                                MOV     A,#00000001B
                                LCALL  LOOP
                                MOV     A,#11111111B
                                LCALL  WDATA
                                MOV     A,#10110001B
                                MOV     R5,A
                                LCALL  WCOM
                                MOV     A,#00010000B
                                LCALL  WCOM
                                MOV     A,#00000000B
                                LCALL  WCOM
                                MOV     R6,#2
TEST2_1: MOV     A,#11111111B
                                LCALL  WDATA
                                MOV     A,#00000000B
                                LCALL  LOOP
                                MOV     A,#11111111B
                                LCALL  WDATA
                                INC     R5
                                MOV     A,R5
                                LCALL  WCOM
                                MOV     A,#00010000B
                                LCALL  WCOM
                                MOV     A,#00000000B
                                LCALL  WCOM
                                DJNZ   R6,TEST2_1
                                MOV     A,#10110011B
                                LCALL  WCOM
                                MOV     A,#00010000B
                                LCALL  WCOM
                                MOV     A,#00000000B
                                LCALL  WCOM
                                MOV     A,#11111111B
                                LCALL  WDATA
                                MOV     A,#10000000B
                                LCALL  LOOP
                                MOV     A,#11111111B
                                LCALL  WDATA
                                RET
TEST5:  MOV     A,#10110000B
                                MOV     R5,A
                                LCALL  WCOM
                                MOV     A,#00010000B
                                LCALL  WCOM
                                MOV     A,#00000000B
                                LCALL  WCOM
                                MOV     R7,#4
TEST5_1: MOV     A,#10H
                                MOV     R4,A
                                MOV     DPTR,#CHAR
                                MOV     R6,#128
TEST5_2: MOVC   A,@A+DPTR
                                LCALL  WDATA
                                INC     R4
                                MOV     A,R4
                                DJNZ   R6,TEST5_2
                                INC     R5
                                MOV     A,R5
                                LCALL  WCOM
                                MOV     A,#00010000B
                                LCALL  WCOM
                                MOV     A,#00000000B
                                LCALL  WCOM
                                DJNZ   R7,TEST5_1
                                RET
TEST6:  MOV     A,#10110000B
                                MOV     R5,A

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                LCALL  WCOM
                MOV    A,#00010000B
                LCALL  WCOM
                MOV    A,#00000000B
                LCALL  WCOM
;                MOV    DPTR,#CHAR1
                ;MOV R4,#4
TEST6_3:        MOV    DPTR,#CHAR2
                MOV    R7,#4
                TEST6_1: ;MOV    A,#10H
;                MOV    R4,A

                MOV    R6,#128
TEST6_2:        MOV    A,#0
                MOVC   A,@A+DPTR
                LCALL  WDATA
                INC    DPTR
                ;MOV    A,R4
                DJNZ   R6,TEST6_2
                INC    R5
                MOV    A,R5
                LCALL  WCOM
                MOV    A,#00010000B
                LCALL  WCOM
                MOV    A,#00000000B
                LCALL  WCOM
                DJNZ   R7,TEST6_1
                ;DJNZ R4,TEST6_3
                RET
LOOP:           MOV    R7,#126
LOOP_1:         LCALL  WDATA
                DJNZ   R7,LOOP_1
                RET
DELAY:          MOV    40H,#032H          ;10.05ms
DEL1:           MOV    41H,#030H
DEL2:           DJNZ   41H,DEL2          ;192us
                DJNZ   40H,DEL1
                RET

DELAY2:         SETB  EX0
                SETB  EX1
                LCALL  DELAY4
                MOV    40H,#15
DEL21:          MOV    41H,#250
DEL22:          MOV    42H,#80
DEL23:          ;MOV C,P2.0
                JB    P2.0,KDL
                LCALL  DELAY4
CHECK_KEY:      NOP
                NOP
                ;MOV C,P2.0
                JNB   P2.0,BREAK1
                JMP   CHECK_KEY
KDL:           DJNZ   42H,DEL23
                DJNZ   41H,DEL22
                DJNZ   40H,DEL21
BREAK1:         CLR   EX0
                CLR   EX1
                RET
DELAY4:         MOV    43h,#4
DEL41:          MOV    44h,#250
DEL42:          MOV    45h,#200
DEL43:          DJNZ   45h,DEL43
                DJNZ   44h,DEL42
                DJNZ   43h,DEL41
                RET
WCOM:           CLR   EA
                clr   A0
                CLR   CS1
                SETB  R_D
                ;CLR W_R

                MOV   P0,A
                NOP
                ;SETB R_D
                ;CLR R_D
                CLR   W_R
                NOP

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SETB W_R
NOP
NOP
NOP
NOP
SETB CS1
SETB A0
MOV 49H,#15
L1:DJNZ 49H,L1
SETB EA
RET
WDATA: CLR EA
        SETB A0
        CLR CS1
        SETB R_D
        ;CLR W_R

        MOV P0,A
        NOP
        ;CLR R_D
        CLR W_R
        ;SETB A0
        NOP
        SETB W_R
        NOP
        NOP
        NOP

        ;MOV 49H,#15
        ;L2:DJNZ 49H,L2
        ; SETB R_D
        ;CLR R_D
        SETB CS1
        CLR A0
        SETB EA
        RET

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CHAR:
DB      0FFH,000H,0FFH,000H,0FFH,000H,0FFH,000H
DB      055H,055H,055H,055H,055H,055H,055H,055H
DB      03FH,048H,048H,048H,03FH,000H,000H,000H
DB      07FH,049H,049H,049H,036H,000H,000H,000H
DB      03EH,041H,041H,041H,022H,000H,000H,000H
DB      07FH,041H,041H,022H,01CH,000H,000H,000H
DB      07FH,049H,049H,049H,041H,000H,000H,000H
DB      07FH,048H,048H,048H,040H,000H,000H,000H
DB      03EH,041H,049H,049H,02FH,000H,000H,000H
DB      036H,049H,055H,022H,005H,000H,000H,000H
DB      002H,015H,015H,015H,00FH,000H,000H,000H
DB      07FH,009H,011H,011H,00EH,000H,000H,000H
DB      00EH,011H,011H,011H,002H,000H,000H,000H
DB      00EH,011H,011H,009H,07FH,000H,000H,000H
DB      00EH,015H,015H,015H,00CH,000H,000H,000H
DB      008H,03FH,048H,040H,020H,000H,000H,000H
DB      018H,025H,025H,025H,03EH,000H,000H,000H
DB      036H,049H,055H,022H,005H,000H,079H,000H
DB      000H,000H,000H,000H,000H,000H,000H,000H

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CHAR2:
DB      000H,000H,000H,000H,008H,0F8H,008H,008H,008H,010H,0E0H,000H,000H,080H,098H,098H
DB      000H,000H,000H,000H,000H,000H,080H,080H,080H,080H,080H,000H,080H,080H,000H,080H
DB      080H,000H,000H,000H,000H,008H,008H,0F8H,000H,000H,000H,000H,000H,080H,080H
DB      080H,080H,000H,000H,080H,080H,080H,000H,000H,080H,080H,080H,000H,080H,080H,0E0H
DB      080H,080H,000H,000H,008H,0F8H,000H,080H,080H,080H,000H,000H,000H,000H,000H,000H
DB      000H,000H,000H,000H,008H,0F8H,008H,000H,000H,000H,000H,000H,000H,080H,080H,0E0H
DB      080H,080H,000H,000H,000H,000H,000H,080H,080H,088H,0F8H,000H,000H,000H,000H,000H
DB      000H,000H,000H,000H,020H,03FH,020H,020H,020H,020H,010H,00FH,000H,000H,020H,03FH
DB      020H,020H,000H,000H,000H,033H,024H,024H,024H,024H,019H,000H,080H,0FFH,0A1H,020H
DB      020H,011H,00EH,000H,000H,020H,020H,03FH,020H,020H,000H,000H,000H,019H,024H,022H
DB      022H,022H,03FH,020H,080H,081H,08EH,070H,018H,006H,001H,000H,000H,000H,000H,01FH
DB      020H,020H,000H,000H,000H,01FH,022H,022H,022H,013H,000H,000H,00EH,011H,020H
DB      020H,020H,011H,000H,020H,03FH,021H,000H,000H,020H,03FH,020H,000H,000H,000H,000H
DB      000H,000H,000H,000H,020H,03FH,020H,020H,020H,020H,030H,000H,000H,000H,000H,01FH
DB      020H,020H,000H,000H,000H,00EH,011H,020H,020H,010H,03FH,020H,000H,000H,000H,000H
DB      000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,030H,008H,088H
DB      088H,048H,030H,000H,000H,070H,008H,008H,008H,088H,070H,000H,000H,010H,010H,0F8H

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DB 000H,000H,000H,000H,000H,070H,008H,008H,008H,088H,070H,000H,000H,070H,088H,008H
DB 008H,088H,070H,000H,000H,000H,0C0H,038H,0E0H,000H,000H,000H,000H,000H,000H,000H
DB 000H,000H,000H,000H,000H,070H,088H,008H,008H,008H,038H,000H,000H,000H,080H,080H
DB 080H,080H,000H,000H,080H,080H,080H,000H,080H,080H,080H,000H,000H,080H,098H,098H
DB 000H,000H,000H,000H,000H,000H,080H,080H,080H,080H,000H,000H,000H,000H,080H,080H
DB 080H,080H,080H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB 000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,018H,020H,020H
DB 020H,011H,00EH,000H,000H,030H,028H,024H,022H,021H,030H,000H,000H,020H,020H,03FH
DB 020H,020H,000H,000H,000H,030H,028H,024H,022H,021H,030H,000H,000H,01CH,022H,021H
DB 021H,022H,01CH,000H,020H,03CH,023H,002H,002H,027H,038H,020H,000H,000H,000H,000H
DB 000H,000H,000H,000H,000H,038H,020H,021H,021H,022H,01CH,000H,000H,01FH,022H,022H
DB 022H,022H,013H,000H,020H,020H,03FH,021H,020H,000H,001H,000H,000H,020H,020H,03FH
DB 020H,020H,000H,000H,000H,01FH,022H,022H,022H,022H,013H,000H,000H,033H,024H,024H
DB 024H,024H,019H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
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END